

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1 (Currently Amended). An organic-inorganic hybrid material comprising a ligand-doped metal oxide matrix having one kind or plural kinds of metal atoms, and a ligand bonded to the metal atom by chelating,

wherein the metal atom is selected from typical metals or transition metals,

wherein the ligand has a phenolic moiety, and an oxygen atom of the phenolic moiety is bonded to the metal atom, and

wherein the ligand further has a heterocycle with a nitrogen atom as a hetero atom and chelates the metal atom by the oxygen atom and the nitrogen atom.

2 (Withdrawn). An organic-inorganic hybrid material according to claim 1, wherein the organic hybrid material has a peak of an absorption spectrum between 350 nm and 800 nm.

3 (Withdrawn). An organic-inorganic hybrid material according to claim 1, wherein the ligand shows a light-emitting property by chelating the metal atom.

4 (Withdrawn). An organic-inorganic hybrid material according to claim 1, wherein the organic hybrid material has a peak of an emission spectrum between 380 nm and 760 nm.

5 (Previously Presented). An organic-inorganic hybrid material according to claim 1, wherein the organic-inorganic hybrid material shows semiconductivity.

6-7 (Canceled).

8 (Currently Amended). An organic-inorganic hybrid material ~~according to claim 1,~~
comprising a ligand-doped metal oxide matrix having one kind or plural kinds of metal atoms,
and a ligand bonded to the metal atom by chelating,

wherein the metal atom is selected from typical metals or transition metals,

wherein the ligand has a phenolic moiety, and an oxygen atom of the phenolic moiety is bonded to the metal atom, and

wherein the ligand further has an azomethyne azomethine group and chelates the metal atom by the oxygen atom of the phenolic moiety and the ~~azomethyne~~ azomethine group.

9-10 (Canceled).

11 (Currently Amended). An organic-inorganic hybrid material ~~according to claim 1,~~
comprising a ligand-doped metal oxide matrix having one kind or plural kinds of metal atoms,
and a ligand bonded to the metal atom by chelating,

wherein the metal atom is selected from typical metals or transition metals,

wherein the ligand has a carboxyl moiety, and an oxygen atom of the carboxyl moiety is bonded to the metal atom, and

wherein the ligand further has ~~a azomethyne~~ an azomethine group and chelates the metal atom by the oxygen atom of the carboxyl moiety and the ~~azomethyne~~ azomethine group.

12 (Currently Amended). An organic-inorganic hybrid material ~~according to claim 1,~~
comprising a ligand-doped metal oxide matrix having one kind or plural kinds of metal atoms,
and a ligand bonded to the metal atom by chelating,

wherein the metal atom is selected from typical metals or transition metals,

wherein the ligand has a hydroxylamino moiety, and an oxygen atom of the hydroxylamino moiety is bonded to the metal atom, and

wherein the ligand further has a carbonyl group, and chelates the metal atom by the oxygen atom of the hydroxylamino moiety and the carbonyl group.

13 (Currently Amended). An organic-inorganic hybrid material according to claim 1,
wherein the ligand has a structure selected from 8-hydroxyquinoline moiety, 10-hydroxybenzoquinoline moiety, 2-(2-hydroxyphenyl)benzoxazole moiety, 2-(2-hydroxyphenyl)benzothiazole moiety, ~~2-(2-hydroxyphenyl)benzimidazole~~ 2-(2-hydroxyphenyl)benzimidazole moiety, and 2-(2-hydroxyphenyl)pyridine moiety, ~~3-hydroxyflavone moiety, 5-hydroxyflavone moiety, salicylideneamine moiety, picolinic acid moiety, coumarin 3-carboxylic acid moiety, salicylidene aminoacid moiety, benzylideneamino acid moiety, N-benzoyl N-phenylhydroxylamine moiety, N-cinnamoyl N-phenylhydroxylamine moiety.~~

14 (Previously Presented). The organic-inorganic hybrid material according to claim 1, wherein the metal atom is selected from magnesium, calcium, strontium, barium, scandium, yttrium, lanthanum, titanium, zirconium, hafnium, zinc, aluminum, gallium, and indium.

15 (Canceled).

16 (Previously Presented). The organic-inorganic hybrid material according to claim 1, further comprising an aromatic compound.

17 (Original). The organic-inorganic hybrid material according to claim 16, wherein the aromatic compound is an organic pigment, an organic light emitter, or an organic semiconductor.

18-19 (Canceled).

20 (Withdrawn). A light-emitting device using the carrier-injection type electroluminescent device described in claim 18.

21 (Withdrawn). A light-emitting device using the intrinsic electroluminescent device described in claim 19.

22 (Withdrawn). A glass product coated with the organic-inorganic hybrid material described in any one of claims 1 to 13.

23 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing a coloring property by chelating the metal atom, and an organic solvent.

24 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing a light-emitting property by chelating the metal atom, and an organic solvent.

25 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing semiconductivity by chelating the metal atom, and an organic solvent.

26 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and a heterocycle with a nitrogen atom as a hetero atom, and an organic solvent.

27 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and a carbonyl group, and an organic solvent.

28 (Withdrawn-Currently Amended). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and an ~~azomethyne~~ azomethine group, and an organic solvent.

29 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and a heterocycle with a nitrogen atom as a hetero atom, and an organic solvent.

30 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and a carbonyl group, and an organic solvent.

31 (Withdrawn-Currently Amended). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and an ~~azomethyne~~ azomethine group, and an organic solvent.

32 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a hydroxylamino group and a carbonyl group, and an organic solvent.

33 (Withdrawn). A composition for coating application, including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound chelating the metal atom, and an organic solvent, wherein the organic compound is any of 8 - hydroxyquinoline and derivatives thereof, 10 - hydroxybenzo - quinoline and derivatives thereof, 2 - (2 - hydroxyphenyl) benzoxazole and derivatives thereof, 2 - (2 - hydroxyphenyl) benzothiazole and derivatives thereof, 2 - (2 - hydroxyphenyl) benzoimidazole and derivatives thereof, 2 - (2 - hydroxyphenyl) pyridine and derivatives thereof, 3 - hydroxyflavone and derivatives thereof, 5 - hydroxyflavone and derivatives thereof, salicylideneamine and derivatives thereof, picolinic acid and derivatives thereof, coumarin - 3 - carboxylic acid and derivatives thereof, salicylidene aminoacid and derivatives thereof, benzylideneamino acid and derivatives thereof, N - benzoyl - N - phenyl - hydroxylamine and derivatives thereof, and N - cinnamoyl - N - phenyl - hydroxylamine and derivatives thereof.

34 (Withdrawn). The composition for coating application according to any one of claims 23 to 33, wherein the metal atom is any selected from the group consisting of magnesium, calcium, strontium, barium, titanium, zirconium, hafnium, zinc, aluminum, gallium, and indium.

35 (Withdrawn). The composition for coating application according to any one of claims 23 to 33, further including an alkoxysilane, an organoalkoxysilane, and/or an organosiloxane.

36 (Withdrawn). The composition for coating application according to claim 35, wherein the number of silicon atoms of the alkoxysilane, the organoalkoxysilane, and/or the organosiloxane is 0.5 equivalent or more and 10 equivalents or less for the number of the metal atoms.

37 (Withdrawn). The composition for coating application according to any one of claims 23 to 33,

wherein the amount of the organic compound is 1 equivalent or less for the metal alkoxide and/or the metal salt.

38 (Withdrawn). The composition for coating application according to any one of claims 23 to 33,

wherein the organic solvent is an organic solvent including a lower alcohol, tetrahydrofuran, or acetonitril.

39 (Withdrawn). The composition for coating application according to claim 38,

wherein the lower alcohol any selected from the group consisting of methanol, ethanol, n-propanol, isopropanol, n-butanol, sec-butanol, and tert-butanol.

40. (Withdrawn). The composition for coating application according to any one of claims 23 to 33, further including water.

41 (Withdrawn). The composition for coating application according to claim 40, wherein the amount of the added water is 2 equivalents or more and 6 equivalents or less for the metal alkoxide and/or the metal salt.

42 (Withdrawn). The composition for coating application according to any one of claims 23 to 33, further including a chemical modifier.

43 (Withdrawn). The composition for coating application according to claim 42, wherein the chemical modifier is β -diketone.

44 (Withdrawn). The composition for coating application according to claim 42, wherein the amount of the added chemical modifier is 0.5 equivalent or more and 6 equivalents or less for the metal alkoxide and/or the metal salt.

45 (Withdrawn). The composition for coating application described in any one of claims 23 to 33, further including an aromatic compound.

46 (Withdrawn). The composition for coating application according to claim 45, wherein the aromatic compound is an organic pigment, an organic light emitter, or an organic semiconductor.

47 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing a coloring property by chelating the metal atom, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

48 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing a light-emitting property by chelating the metal atom, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

49 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound showing semiconductivity by chelating the metal atom, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

50 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application

including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and a heterocycle with a nitrogen atom as a hetero atom, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

51 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and a carbonyl group, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

52 (Withdrawn-Currently Amended). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a phenolic hydroxy group and an azomethyne azomethine group, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

53 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application

including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and a heterocycle with a nitrogen atom as a hetero atom, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

54 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and a carbonyl group, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

55 (Withdrawn-Currently Amended). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a carboxyl group and an azomethyne azomethine group, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

56 (Withdrawn). A method of manufacturing an organic-inorganic hybrid material, comprising a first step of performing wet coating of a composition for coating application

including at least a metal alkoxide having one kind or plural kinds of metal atoms and/or a metal salt, an organic compound having a hydroxylamino group and a carbonyl group, and an organic solvent, on a base material, and a second step of calcining at a temperature of 100 °C or more and 300 °C or less under an atmospheric pressure or under a reduced pressure.

57 (Canceled).

58 (Withdrawn). The method of manufacturing the organic-inorganic hybrid material according to any one of claims 47 to 56,

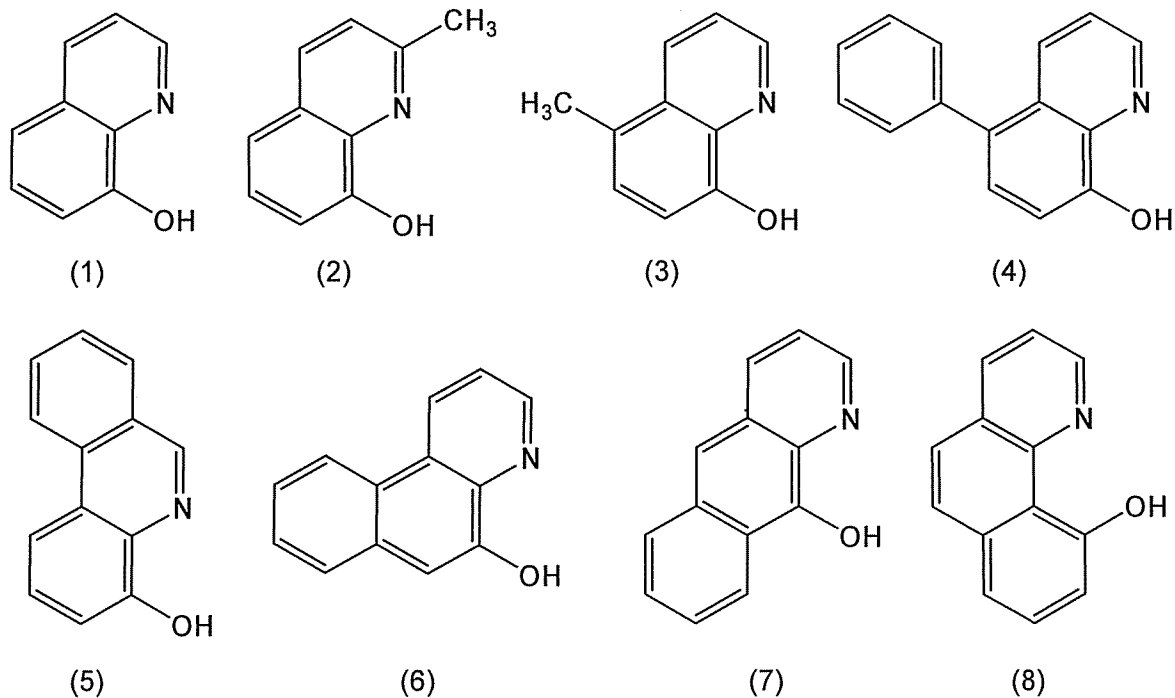
wherein the composition for coating application further includes β -diketon as a chemical modifier.

59 (Withdrawn). The method of manufacturing the organic-inorganic hybrid material according to any one of claims 47 to 56,

wherein the wet coating is any of a dip coating method, a spin coating, and an inkjet method.

60. (Withdrawn). An organic-inorganic hybrid material according to claim 1, wherein the ligand shows a coloring property by chelating the metal atom.

61 (New). An organic-inorganic hybrid material according to claim 1, wherein the ligand is selected from the group consisting of compounds represented by formulas (1) to (8):



62 (New). An organic-inorganic hybrid material according to claim 8, wherein the organic-inorganic hybrid material shows semiconductivity.

63 (New). An organic-inorganic hybrid material according to claim 8, wherein the metal atom is selected from magnesium, calcium, strontium, barium, scandium, yttrium, lanthanum, titanium, zirconium, hafnium, zinc, aluminum, gallium, and indium.

64 (New). An organic-inorganic hybrid material according to claim 8, further comprising an aromatic compound.

65 (New). An organic-inorganic hybrid material according to claim 64,
wherein the aromatic compound is an organic pigment, an organic light emitter, or an
organic semiconductor.

66 (New). An organic-inorganic hybrid material according to claim 11,
wherein the organic-inorganic hybrid material shows semiconductivity.

67 (New). An organic-inorganic hybrid material according to claim 11,
wherein the metal atom is selected from magnesium, calcium, strontium, barium,
scandium, yttrium, lanthanum, titanium, zirconium, hafnium, zinc, aluminum, gallium, and
indium.

68 (New). An organic-inorganic hybrid material according to claim 11, further
comprising an aromatic compound.

69 (New). An organic-inorganic hybrid material according to claim 68,
wherein the aromatic compound is an organic pigment, an organic light emitter, or an
organic semiconductor.

70 (New). An organic-inorganic hybrid material according to claim 12,
wherein the organic-inorganic hybrid material shows semiconductivity.

71 (New). An organic-inorganic hybrid material according to claim 12,

wherein the metal atom is selected from magnesium, calcium, strontium, barium, scandium, yttrium, lanthanum, titanium, zirconium, hafnium, zinc, aluminum, gallium, and indium.

72 (New). An organic-inorganic hybrid material according to claim 12, further comprising an aromatic compound.

73 (New). An organic-inorganic hybrid material according to claim 72,

wherein the aromatic compound is an organic pigment, an organic light emitter, or an organic semiconductor.